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(54) SURFACE COATING THROW AWAY INSERT

(57) Abstract:

PROBLEM TO BE SOLVED: To keep the sufficient adhesiveness of a film even in a cutting process of a steel, of which hardness is higher than the Rockwell hardness at 40 (scale C), by setting the diffraction intensity of a surface (200) at the time of X-ray diffraction of a coating layer at a value larger than a value of the diffraction intensity of a surface (111).

SOLUTION: Surface of a throw away insert is coated with the compound nitride of Ti and Al, carbon nitride, and carbide. In this throw away insert, in the case where diffraction intensity of a surface (111) at the time of X-ray diffraction of a coating layer is expressed with I (111) and diffraction intensity of a surface (200) is expressed with I (200), both the diffraction intensity are set so that a value of I (200)/I (111) becomes 1 or more. For example, a compact arc ion plating device is used so that coating of a film of (Ti0.5Al0.5) N is performed at 5μm of thickness in the condition of bias voltage at 60 V, vacuum degree at 2.0×10^{-2} mbar, arc current at 150 A. A coating layer at 1.5 of I (200)/I (111) is thereby formed.

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